Amendments to the Claims:

Please add new claims 17-50 as follows:

17.   A mobile telephony apparatus to provide forward error correctable data in a wireless communication network, the apparatus comprising:

a processor for segmenting data into a data block having a predetermined length;

a turbo code encoder in data communication with the processor for processing the data block, the turbo code encoder comprising a plurality of constituent encoders, wherein at least one of the plurality of constituent encoders has a transfer function of: $G(D)=[1, (1+D+D^3)/(1+D^2+D^3)]$;

a channel interleaver in data communication with the turbo code encoder to interleave code symbols; and

a transmitter for transmitting interleaved data through an antenna.

18.   The mobile telephony apparatus of claim 17, wherein turbo code encoder comprises two constituent encoders enabling a minimum code rate.

19.   The mobile telephony apparatus of claim 17, wherein the turbo code encoder includes a puncturer that punctures output bits from the plurality of constituent encoders resulting in a plurality of code rates.

20.   The mobile telephony apparatus of claim 18, wherein the minimum code rate is equal to 1/n, wherein n is a positive integer.

21.   The mobile telephony apparatus of claim 18, wherein the minimum code rate is equal to 1/3.

22.   The mobile telephony apparatus of claim 19, wherein the puncturing is performed in accordance with periodic puncturing patterns.

23.   The mobile telephony apparatus of claim 19, wherein the puncturing results in the plurality of code rates approximately equal to 1/n, wherein n is a positive integer.

24. The mobile telephony apparatus of claim 17, wherein turbo code encoder comprises two constituent encoders resulting in a code rate of approximately 1/n, wherein n is a positive integer.

25. The mobile telephony apparatus of claim 19, wherein the puncturing results in the plurality of code rates approximately equal to at least 1/3.

26. The mobile telephony apparatus of claim 17, wherein turbo code encoder comprises two constituent encoders resulting in a code rate of approximately 1/3.

27. The mobile telephony apparatus of claim 17, wherein the turbo code encoder is adapted to receive a plurality of data block sizes.

28. The mobile telephony apparatus of claim 27, wherein the turbo code encoder includes a turbo code interleaver for interleaving the data block

29. A base telephony system to provide forward error correctable data in a wireless communication network, the apparatus comprising:

a processor for segmenting data into a data block having a predetermined length;

a turbo code encoder in data communication with the processor for processing the data block, the turbo code encoder comprising a plurality of constituent encoders, wherein at least one of the plurality of constituent encoders has a transfer function of: $G(D)=[1,(1+D+D^3)/(1+D^2+D^3)]$;

a channel interleaver in data communication with the turbo code encoder to interleave code symbols; and

a transmitter for transmitting interleaved data through an antenna.

30. The base telephony apparatus of claim 29, wherein turbo code encoder comprises two constituent encoders enabling a minimum code rate.

31. The base telephony system of claim 29, wherein the turbo code encoder includes a puncturer that punctures output bits from the plurality of constituent encoders resulting in a plurality of code rates.

32. The base telephony system of claim 29, wherein the minimum code rate is approximately equal to 1/n, wherein n is a positive integer.

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33.   The base telephony system of claim 29, wherein the minimum code rate is approximately equal to 1/3.

34.   The base telephony system of claim 31, wherein the puncturing is performed in accordance with periodic puncturing patterns.

35.   The base telephony system of claim 31, wherein the puncturing results in the plurality of code rates approximately equal to 1/n, wherein n is a positive integer.

36.   The base telephony system of claim 29, wherein turbo code encoder comprises two constituent encoders resulting in a code rate of approximately 1/n, wherein n is a positive integer.

37.   The base telephony system of claim 31, wherein the puncturing results in the plurality of code rates approximately equal to at least 1/3.

38.   The base telephony system of claim 29, wherein turbo code encoder comprises two constituent encoders resulting in a code rate of approximately 1/3.

39.   The base telephony system of claim 29, wherein the turbo code encoder is adapted to receive a plurality of data block sizes.

40.   The base telephony system of claim 39, wherein the turbo code encoder includes a turbo code interleaver for interleaving the data block

41.   A method for encoding data in a radio telephony apparatus to provide forward error correctable data in a wireless communication network, the method comprising the steps of:

segmenting data into a data block having a predetermined length;

encoding the data block in a turbo code encoder, the turbo code encoder comprising a plurality of constituent encoders, wherein at least one of the plurality of constituent encoders has a transfer function of: $G(D)=[1, (1+D+D^3)/(1+D^2+D^3)]$;

channel interleaving an output from the turbo code encoder to interleave code symbols; and

transmitting interleaved data.

42.   The method of claim 41, wherein turbo code encoder comprises two constituent encoders enabling a minimum code rate.

43.   The method of claim 41, wherein the turbo code encoder includes a puncturer that punctures output bits from the plurality of constituent encoders resulting in a plurality of code rates.

44.   The method of claim 43, wherein the puncturing is performed in accordance with periodic puncturing patterns.

45.   The method of claim 44, wherein the puncturing results in the plurality of code rates equal to approximately 1/n, wherein n is a positive integer.

46.   The method of claim 41, wherein turbo code encoder comprises two constituent encoders resulting in a code rate of approximately 1/n, wherein n is a positive integer.

47.   The method of claim 44, wherein the puncturing results in the plurality of code rates equal to approximately 1/3.

48.   The method of claim 41, wherein turbo code encoder comprises two constituent encoders resulting in a code rate of 1/3.

49.   The method of claim 41, wherein the turbo code encoder is adapted to receive a plurality of data block sizes.

50.   The method of claim 49, wherein the turbo code encoder includes a turbo code interleaver for interleaving the data block.